



NASA Spacecraft Captures Stunning Images During Mars Flyby

Description

NASA's Psyche spacecraft recently made a close approach to Mars, capturing stunning images while using the planet's gravity to increase its speed toward a distant asteroid. This maneuver, which took place on May 15, involved the spacecraft flying about 2,900 miles from Mars' surface. By employing a gravity assist, Psyche's speed increased by approximately 1,000 mph, allowing it to adjust its trajectory towards the asteroid 16 Psyche.

During this flyby, mission controllers seized the opportunity to photograph Mars from interesting angles. The images showcase details of the planet's polar ice caps, intricate surface features shaped by wind, and various crater formations. NASA scientists noted that this close encounter helped them test and calibrate their scientific instruments in preparation for the asteroid mission.

Psyche was launched in October 2023 and is on a journey of 2.2 billion miles to reach its namesake asteroid, located in the outer asteroid belt. Scientists believe this asteroid may represent an exposed metallic core of a former planetary body. Understanding its composition could provide insight into the formation of rocky planets like Earth and their iron cores.

The spacecraft is set to arrive at 16 Psyche in summer 2029. Once there, it will spend several years mapping the asteroid's structure and composition. If it is confirmed to be a fragment of a planetary core, this mission could open a unique view into the deep interiors of terrestrial worlds.

Vocabulary List:

1. **maneuver** //mə'nuvər// (noun): a planned movement or action by a vehicle
2. **trajectory** //trə'dʒɛktəri// (noun): the path something follows through space
3. **calibrate** //ˈkæli,breɪt// (verb): to adjust an instrument to make it correct
4. **composition** //,kɒmpə'zɪʃən// (noun): the parts that something is made of
5. **metallic** //mə'tæɪlɪk// (adjective): made of or similar in quality to metal
6. **terrestrial** //tə'restriəl// (adjective): relating to Earth or to land on Earth

Comprehension Questions



Multiple Choice

1. When did NASA's Psyche spacecraft make a close approach to Mars?
Option: May 15
Option: April 20
Option: June 10
Option: July 4
2. How far did Psyche fly from Mars' surface during its close approach?
Option: 1,500 miles
Option: 2,900 miles
Option: 3,600 miles
Option: 4,200 miles
3. What speed did Psyche increase to by employing a gravity assist?
Option: 500 mph
Option: 750 mph
Option: 1,000 mph
Option: 1,200 mph
4. In which year was Psyche launched?
Option: 2021
Option: 2022
Option: 2023
Option: 2024
5. What is the destination asteroid for the Psyche spacecraft?
Option: Asteroid 15
Option: Asteroid 16
Option: Asteroid 18
Option: Asteroid 20
6. When is Psyche expected to arrive at its destination asteroid?
Option: 2027
Option: 2028
Option: 2029
Option: 2030



True-False

7. NASA's Psyche spacecraft used Mars' gravity to slow down.
8. Psyche's close encounter with Mars allowed scientists to test their instruments.
9. The asteroid 16 Psyche is located in the inner asteroid belt.
10. The spacecraft will spend several weeks mapping the asteroid's structure.
11. NASA captured images of Mars during the spacecraft's flyby.
12. The mission aims to understand the composition of rocky planets like Mars.

Gap-Fill

13. NASA's Psyche spacecraft made a close approach to Mars on _____.
14. Psyche's journey to reach its namesake asteroid is _____ billion miles long.
15. During its flyby, Psyche flew about _____ miles from Mars' surface.
16. The spacecraft is expected to arrive at 16 Psyche in the summer of _____.
17. Psyche may represent an exposed _____ core of a former planetary body.
18. The mission could provide insight into the formation of rocky planets like _____ and their iron cores.

Answer

Multiple Choice: 1. May 15 2. 2,900 miles 3. 1,000 mph 4. 2023 5. Asteroid 16 6. 2029

True-False: 7. False 8. True 9. False 10. False 11. True 12. False

Gap-Fill: 13. May 15 14. 2.2 15. 2,900 16. 2029 17. metallic 18. Earth

CATEGORY

1. Sci/Tech - LEVEL5



POST TAG

1. ESL learning
2. esl news
3. flyby
4. Level 5
5. Mars
6. NASA
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